AMENDMENTS TO THE CLAIMS

Claims 1-16 (Canceled)

Claim 17 (New)   A multiplexing apparatus for multiplexing one or more coded streams with other information, the coded streams including coded pictures on a per randomly-accessible access unit basis, said multiplexing apparatus comprising:

a first determining unit operable to determine delay amounts so that the delay amounts in two access units to be decoded in sequence among the access units in the coded streams become equal to each other, the delay amount being a time lag from a decoding time of a top picture in decoding order to a display time of a top picture in display order;

a generating unit operable to code the pictures included in the access units and generate the one or more coded streams according to the delay amounts determined by said first determining unit; and

a multiplexing unit operable to multiplex the one or more coded streams generated by the generating unit and the other information,

wherein the other information includes a flag indicating whether the two access units can be connected to each other seamlessly, and the flag is determined depending on whether the delay amounts of the two access units are equal to each other.

Claim 18 (New)   The multiplexing apparatus according to Claim 17,

wherein said multiplexing apparatus limits the delay amounts to a predetermined value or below.

Claim 19 (New) The multiplexing apparatus according to Claim 18, wherein said generating unit is further operable to generate each of the coded streams using, as an Instantaneous Decoder Refresh (IDR) picture, a picture to be decoded first in a second access unit to be decoded immediately after a first access unit.

Claim 20 (New) A multiplexing method for multiplexing one or more coded streams with other information, the coded streams including coded pictures on a per randomly-accessible access unit basis, said multiplexing method comprising:

determining delay amounts so that the delay amounts in two access units to be decoded in sequence among the access units in the coded streams become equal to each other, the delay amount being a time lag from a decoding time of a top picture in decoding order to a display time of a top picture in display order;

coding the pictures included in the two access units and generating the one or more coded streams according to the delay amounts determined in said determining; and

multiplexing the one or more coded streams generated in said coding and generating and the other information,

wherein the other information includes a flag indicating whether the two access units can be connected to each other seamlessly, and the flag is determined depending on whether the delay amounts of the two access units are equal to each other.

Claim 21 (New) A playback apparatus which demultiplexes multiplexed data generated by the multiplexing apparatus according to Claim 17 and displays the demultiplexed data, said

playback apparatus comprising:

a flag demultiplexing unit operable to demultiplex the flag from the multiplexed data at the time of decoding the two access units in sequence;

a second determining unit operable to determine the delay amount of a top access unit at a display starting time in the case where the flag demultiplexed by said flag demultiplexing unit indicates that the two access units can be connected to each other seamlessly; and

a display unit operable to decode, in sequence, the two access units according to an equal delay amount based on the delay amounts determined by said determining unit and display the decoded two access units.

Claim 22 (New)   A playback method for demultiplexing multiplexed data generated using the multiplexing method according to Claim 20, said playback method comprising:

demultiplexing the flag from the multiplexed data at the time of decoding the two access units in sequence;

determining the delay amount of a top access unit at a display starting time in the case where the flag demultiplexed in said demultiplexing indicates that the two access units can be connected to each other seamlessly; and

decoding, in sequence, the two access units according to the delay amounts determined to be equal in said determining and displaying the decoded two access units.

Claim 23 (New)   A recording method for recording, onto a recording medium, multiplexed data including one or more coded streams and other information, the coded streams including coded pictures on a per randomly-accessible access unit basis, said recording method

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comprising:

determining delay amounts so that the delay amounts in the two access units to be decoded in sequence among the access units in the coded streams become equal to each other, the delay amount being a time lag from a decoding time of a top picture in decoding order to a display time of a top picture in display order; and

coding the pictures included in the two access units and generating one or more coded streams according to the delay amounts determined in said determining;

multiplexing the one or more coded streams generated in said coding and generating and the other information; and

recording, onto the recording medium, the multiplexed data multiplexed in said multiplexing,

wherein the other information includes a flag indicating whether the two access units can be connected to each other seamlessly, and

the flag is determined depending on whether the delay amounts of the two access units are equal to each other.

Claim 24 (New)   A playback system comprising a computer-readable recording medium on which multiplexed data is recorded and a playback apparatus which reads and demultiplexes the multiplexed data from the recording medium and displays the demultiplexed data,

wherein the multiplexed data recorded on the recording medium includes: one or more coded streams including coded pictures on a per randomly-accessible access unit basis, which have been coded so that the delay amounts in two access units to be decoded in sequence among

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the access units in the coded streams become equal to each other, the delay amount being a time lag from a decoding time of a top picture in decoding order to a display time of the top picture in display order; and other information including a flag indicating whether the two access units are connected to each other seamlessly depending on whether the delay amounts of the two access units are equal to each other, and

wherein said playback apparatus includes:

a flag demultiplexing unit operable to demultiplex the flag from the multiplexed data;

a determining unit operable to determine the delay amount of a top access unit at a display starting time in the case where the flag demultiplexed by the flag demultiplexing unit indicates that the two access units can be connected to each other seamlessly; and

a display unit operable to decode, in sequence, the two access units according to the delay amounts determined to be equal by said determining unit and display the decoded two access units.